

AMENDMENTS TO THE CLAIMS

1. **(CURRENTLY AMENDED)** A body fluid shunt comprising:
 - a. an inlet port;
 - b. an outlet port;
 - c. a fluid passage between the inlet and outlet ports;
 - d. a valve situated between the inlet and outlet ports, the valve defining:
 - (1) an upstream side of the fluid passage between the inlet port and the valve, and
 - (2) a downstream side of the fluid passage between the valve and the outlet port,and wherein the valve is at least partially defined by a drain port extending between the upstream and downstream sides of the fluid passage;
 - e. a piston:
 - (1) having a piston face defined on the upstream side of the fluid passage, **and**
wherein at least a portion of the piston face is defined by a deformable diaphragm.
 - (2) being displaceable to actuate the valve, and
 - (3) having a cutout defined therein, the cutout being alignable with the drain port when the piston is displaced,wherein:
 - i. fluid bearing on the piston face at or above a shunting pressure will displace the piston to actuate the valve, with alignment of the cutout and the drain port opening the valve to thereby allow passage of fluid between the inlet and outlet ports, and
 - ii. the position of the piston is independent of the pressure in the downstream side of the fluid passage.
2. **(CANCELED)**

3. **(ORIGINAL)** The body fluid shunt of claim 2 wherein the deformable diaphragm has opposing sides defining:
 - a. a fluid side, the fluid side being at least partially bounded by the upstream side of the fluid passage, and
 - b. a gas side, the gas side being at least partially bounded by a gas chamber, the gas chamber being closed to the ingress of fluid.
4. **(ORIGINAL)** The body fluid shunt of claim 3 wherein the gas chamber has selectively adjustable volume, whereby a user may selectively adjust the gas chamber volume to adjust the pressure of gas therein, and thereby adjust the gas pressure on the gas side of the deformable diaphragm.
5. **(ORIGINAL)** The body fluid shunt of claim 1 wherein:
 - a. the piston is displaceable along a piston travel axis; and
 - b. fluid flowing through the valve between the upstream and downstream sides of the flow passage flows along a valve flow direction oriented at least substantially perpendicular to the piston travel axis.
6. **(ORIGINAL)** The body fluid shunt of claim 1 wherein the piston includes:
 - a. a piston tail end opposite its piston face, and
 - b. an intermediate length extending between its face and piston tail end,and wherein the downstream side of the fluid passage opens onto the piston only at the intermediate length of the piston.
7. **(CANCELED)**

8. **(CURRENTLY AMENDED)** The body fluid shunt of claim 1 wherein:
- a. the valve is at least partially defined by a mask affixed to the piston, the piston is at least partially defined by a mask, the mask being deformable whereby the mask bears against the drain port in accordance with any pressure differential between the upstream and downstream sides of the fluid passage, the mask having a cutout the cutout defined therein,
 - b. **wherein** the valve has:
 - (1) a closed state wherein the mask covers the drain port;
 - (2) an open state wherein the piston is displaced to move the cutout of the mask into alignment with the drain port.
9. **(CANCELED)**
10. **(CURRENTLY AMENDED)** The body fluid shunt of ~~claim 9~~ claim 8 wherein the mask is a flexible membrane.
11. **(ORIGINAL)** The body fluid shunt of claim 1 wherein the piston has a piston tail end opposite its piston face, and wherein the upstream side of the fluid passage opens onto the piston tail end.
12. **(ORIGINAL)** The body fluid shunt of claim 1 wherein the deformable diaphragm includes:
- a. a fluid side, the fluid side being at least partially bounded by the upstream side of the fluid passage, and
 - b. an opposite side isolated from the upstream side of the fluid passage.

13. **(ORIGINAL)** The body fluid shunt of claim 12 wherein the opposite side is biased by at least one of:
 - a. a compressible gas chamber; and
 - b. a spring.
14. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 12 wherein the opposite side is also isolated from the downstream side of the fluid passage.
15. **(ORIGINAL)** The body fluid shunt of claim 14 wherein the pressure on the opposite side is adjustable to a fixed level.
16. **(ORIGINAL)** The body fluid shunt of claim 15 wherein the opposite side is bounded by a gas chamber having selectively adjustable volume, whereby a user may selectively adjust the gas chamber volume to adjust the pressure of gas therein, and thereby adjust the gas pressure on the opposite side of the diaphragm.
17. **(CANCELED)**
18. **(ORIGINAL)** The body fluid shunt of claim 1 wherein the inlet port is in fluid communication with a brain.
19. **(ORIGINAL)** The body fluid shunt of claim 1 wherein the outlet port has an elongated flexible catheter extending therefrom.
20. **(ORIGINAL)** The body fluid shunt of claim 1 wherein:
 - a. the inlet port is in fluid communication with a first cavity in a human body; and
 - b. the outlet port is in fluid communication with a second cavity in the body.

21. (**ORIGINAL**) The body fluid shunt of claim 20 wherein the first and second cavities are at different elevations in the body when the body is standing erect.

22-57. (**CANCELED**)

58. (**PREVIOUSLY PRESENTED**) A body fluid shunt comprising:

- a. an inlet port;
 - b. an outlet port;
 - c. a fluid passage between the inlet and outlet ports, the fluid passage having an upstream side leading from the inlet port and a downstream side leading to the outlet port;
 - d. a deformable diaphragm having a first face adjacent the upstream side and an opposing second face, whereby fluid pressure in the upstream side acts on the first face;
 - e. a piston coupled to the diaphragm wherein:
 - (1) the diaphragm, when undeformed, locates the piston to block fluid flow between the upstream and downstream sides;
 - (2) deformation of the diaphragm locates the piston to allow fluid flow between the upstream and downstream sides; and
- the location of the piston is independent of the pressure in the downstream side of the fluid passage.

59. (**CANCELED**)

60. (**ORIGINAL**) The body fluid shunt of claim 58 wherein the second face of the diaphragm is isolated from the upstream and downstream sides of the fluid passage, whereby fluid pressure in the upstream and downstream sides does not act on the second face.

61. **(ORIGINAL)** The body fluid shunt of claim 58 wherein the second face of the diaphragm is at least partially bounded by a gas chamber, the gas chamber being closed to the ingress of fluid from the fluid passage.
62. **(ORIGINAL)** The body fluid shunt of claim 58 wherein the second face of the diaphragm is biased by at least one of:
 - a. a compressible gas chamber; and
 - b. a spring.
63. **(ORIGINAL)** The body fluid shunt of claim 58 wherein the second face of the diaphragm is bounded by a gas chamber having selectively adjustable volume, whereby a user may selectively adjust the gas chamber volume to adjust the pressure of gas therein, and thereby adjust the gas pressure on the second face of the diaphragm.
64. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 58 wherein:
 - a. the piston is relocated along a piston travel axis during deformation of the diaphragm; and
 - b. fluid situated between the upstream and downstream sides of the flow passage and flowing therebetween flows along a valve flow direction oriented at least substantially perpendicular to the piston travel axis.
65. **(ORIGINAL)** The body fluid shunt of claim 58 wherein the piston includes a cutout defined therein, the cutout being alignable between the upstream and downstream sides during relocation of the piston to allow fluid flow between the upstream and downstream sides, and the piston otherwise blocking fluid flow between the upstream and downstream sides when the cutout is not aligned therebetween.

66. **(ORIGINAL)** The body fluid shunt of claim 65 wherein the piston includes a mask attached thereon, and wherein the mask has the cutout defined therein.
67. **(ORIGINAL)** The body fluid shunt of claim 66 wherein the mask is a flexible membrane.
68. **(ORIGINAL)** The body fluid shunt of claim 58 wherein:
 - a. the inlet port is in fluid communication with a first cavity in a human body, and
 - b. the outlet port is in fluid communication with a second cavity in the body.
69. **(ORIGINAL)** The body fluid shunt of claim 68 wherein the first and second cavities are at different elevations in the body when the body is standing erect.
70. **(ORIGINAL)** The body fluid shunt of claim 58 wherein the inlet port is in fluid communication with a brain.
71. **(ORIGINAL)** The body fluid shunt of claim 58 wherein the outlet port has an elongated flexible catheter extending therefrom.
72. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 1 wherein the piston's displacement to actuate the valve is rotational displacement.
73. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 1 wherein the cutout moves along a curved path to align with the drain port when the piston is displaced.
74. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 1 wherein the piston face is curved, and rides along a complementarily curved guide wall.

75. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 74 wherein the drain port is defined in the guide wall.
- 76-77. **(CANCELED)**
78. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 1 wherein the piston is displaced solely by the pressure in the upstream side of the fluid passage.
79. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 1 wherein:
- the fluid passage has a flow axis centrally located along the fluid passage and extending between the inlet and outlet ports;
 - the piston has a displacement axis along which the piston is displaced, and
 - the flow axis and displacement axis are non-parallel.
80. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 79 wherein the flow axis and displacement axis are perpendicular.
81. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 58 wherein the piston is relocated solely by the pressure in the upstream side of the fluid passage.
82. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 58 wherein:
- the fluid passage has a flow axis centrally located along the fluid passage and extending between the upstream and downstream sides;
 - the piston has a displacement axis along which the piston is displaced, and
 - the flow axis and displacement axis are non-parallel.
83. **(PREVIOUSLY PRESENTED)** The body fluid shunt of claim 82 wherein the flow axis and displacement axis are perpendicular.